

MWI 8730.3

REVISION B

EFFECTIVE DATE: May 9, 2003

EXPIRATION DATE: May 9, 2008

MARSHALL WORK INSTRUCTION

QS01

MSFC MATERIAL REVIEW SYSTEM

CHECK THE MASTER LIST at
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VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		5/14/99	Document converted from MSFC-P13.1-C01 to a Directive. Previous history retained in system as part of canceled or superseded ISO Document files.
Revision	A	8/16/99	Changed organizational references to reflect MSFC's reorganization. Added definitions for critical, major, and minor. Clarified requirements for Project MRB's to document membership in the Project Quality Plan. Replaced reference to MSFC-STD-555 with reference to MWI 8040.3. Changed paragraph 6.1.1.d to indicate that the responsible design engineer is to be contacted if a discrepancy disposition requires a design change. In paragraph 6.1.2, deleted the reference to the specific paragraph in MWI 5100.1.
Revision	B	5/9/03	Document updated to be in compliance with AS9100 and current practices. Updated the Master List URL in the footer.

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1. PURPOSE

This instruction establishes the requirements for processing minor nonconforming items used as, or part of, hardware within MPD 1280.1, "Marshall Management Manual" scope, and establishes the Marshall Space Flight Center (MSFC) responsibilities and procedures for operation of the MSFC Material Review System. This instruction provides the detailed requirements to comply with MPG 8730.3, "Control of Nonconforming Product."

2. APPLICABILITY

This instruction is applicable to onsite processing, manufacturing, testing, or inspection of hardware, or inspection of hardware produced to MSFC designs. Non-conformances affecting hardware built for external customers resulting in a departure from the contract requirements or using external customer controlled designs shall require customer concurrence for use as is and repair dispositions.

3. APPLICABLE DOCUMENTS

- 3.1 MPD 1280.1, "Marshall Management Manual"
- 3.2 MPG 8730.3, "Control of Nonconforming Product"
- 3.3 MWI 5100.1, "Procurement Requisitioners Guide"
- 3.4 MWI 8040.3, "Deviation and Waiver Process, MSFC Programs/Projects"
- 3.5 NPG 1441.1, "NASA Records Retention Schedule"

4. REFERENCES

None

5. DEFINITIONS

5.1 Classification of Nonconforming Characteristics.

5.1.1 Critical Characteristic. A critical characteristic is one that analysis indicates is likely, if defective, to create or increase a hazard to human safety, or to result in failure of a system or major product to perform a required mission.

5.1.2 Major Characteristic. A major characteristic is one that analysis indicates is not critical but is likely, if defective,

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to result in failure of an end item to perform a required mission.

5.1.3 Minor Characteristic. A minor characteristic is one that analysis indicates is significant to product quality but is not likely, if defective, to impair the mission performance of the part or item.

5.2 Discrepancy Record (DR). The record of a hardware/software nonconformance. Dispositions to accomplish required remedial actions are recorded on the Record Copy of MSFC Form 460 The Fabrication Services Contractor in Building 4705 may present non-conforming product on the contractually approved DR form.

5.3 Material Review Crib (MRC). Controlled access area for storage of nonconforming items designated for review.

5.4 Minor Discrepancy. A nonconformance of a minor characteristic.

5.5 Performing Organization. Directorate elements responsible for operations (receiving, manufacturing, test, etc.) and subject to Safety and Mission Assurance (S&MA) inspection or test monitoring activities.

5.6 Repair. A procedure which makes a nonconforming item acceptable for use. The purpose of the repair is to reduce the effect of the nonconformance. Repair is distinguished from rework in that the characteristics after repair still do not completely conform to the applicable drawings, specifications, or contract requirements. Non-standard repair procedures are authorized by Material Review Board (MRB) action for use on a one-time basis only. All repairs require MRB approval prior to implementation.

5.7 Return to Vendor (RTV). Return of items to suppliers for various reasons (rejection, improper paperwork, scrap, repair, rework, credit, etc.).

5.8 Rework. A procedure applied to a nonconforming item that will completely eliminate the nonconformance and result in a characteristic that conforms completely to the drawings, specifications, or contract requirements. Includes both "incomplete operations" and "return to print" dispositions.

5.9 Use As Is. Non-conforming product containing minor discrepancies determined by engineering evaluation to be completely usable without rework or repair may be accepted "Use

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As Is" with the written approval by the governing Material Review Board membership.

6. INSTRUCTIONS

When an item does not conform to applicable drawings, specifications, tests, or other requirements, the item shall be recorded and identified as being nonconforming, segregated from work operations to the extent practicable, and reviewed and dispositioned for timely remedial and recurrence control action. Paragraph 3.2.15 of MPG 8730.3 may be implemented to authorize further processing on non-conforming product when documented in writing by the Lead Systems Engineer on the DR.

6.1 General Provisions

6.1.1 Nonconformance reporting shall be in accordance with the requirements of MPG 8730.3. DR's shall be reviewed by the performing organization and the responsible design organization to determine one of the following dispositions:

6.1.1.1 Scrap, RTV, or rework.

6.1.1.2 Request MRB disposition only for nonconformances of minor characteristics. Note: The MRB chairperson is responsible for ensuring that items presented for MRB disposition are not nonconformances that affect major or critical characteristics.

6.1.1.3 If it is determined that the nonconformance affects a major or critical characteristic, a Deviation Approval Request (DAR) is to be prepared in accordance with MWI 8040.3 in lieu of conducting an MRB.

6.1.1.4 If an engineering problem is indicated, the responsible design engineer shall be contacted for change processing.

6.1.2 When nonconforming items are referred to the MRB for review, either a Centerwide MRB or a project MRB will provide disposition. Non-conformances documented by the Fabrication Services Contractor may be presented to a MSFC Material Review Board for disposition of minor non-conformances in accordance with the governing project plan and/or Quality Plan. Discrepant purchased products may be dispositioned by MRB provided the Contracting Officer authorizes acceptance on the Inspection and Acceptance Request. The product will be dispositioned on a discrepancy record and may be handled by

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MRB. Refer to MWI 5100.1 for further details on acceptance of discrepant purchased products.

6.1.3 Two Centerwide MRB's, one for propulsion systems and components and one for payloads/cargo elements, shall be established to disposition DR's determined in the initial review to require MRB action. Each MRB shall be a committee consisting of voting and nonvoting members identified as follows:

6.1.3.1 Voting Members

a. Safety and Mission Assurance Office Member. Member will act as chairperson and be responsible for representing and signing for all elements within the S&MA Office.

b. Materials, Processes, and Manufacturing (MP&M) Department. (Two members) One member shall be responsible for representing and signing for all MP&M specialties within the department; the other member shall be responsible for representing and signing for all manufacturing elements within the department.

c. Design Members. Members shall be responsible for representing and signing for all design and test elements within the assigned Directorate. Selection of design personnel is contingent upon the Directorate which has design and/or test responsibility for the hardware/software under review.

6.1.3.2 Nonvoting Contract Members. When applicable, onsite contractor quality engineering and technical engineering personnel shall provide consultation to the MRB.

6.1.3.3 Nonvoting Consulting Members. Specialists from technical disciplines or Directorates shall provide assistance to the MRB as required.

6.1.4 Project MRB. Projects may appoint project-level MRB's to act in lieu of the Centerwide MRB's. The Project Quality Plan shall define MRB membership.

6.2 Responsibilities.

6.2.1 Safety and Mission Assurance Office. The Safety and Mission Assurance Office will:

6.2.1.1 Assure overall and timely implementation of the material review system.

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6.2.1.2 Within S&MA, QS30 shall establish Centerwide MRB's, provide chairperson and alternate chairpersons for Centerwide MRB's and maintain a listing of the current MRB membership and alternates.

6.2.1.3 Provide a Quality Records Center (QRC) and record MRB nonconformance dispositions, deviations, and waivers to support the as-built configuration status system (ABCSS) on the parts tag.

6.2.1.4 Establish and maintain secure Material Review Cribs (MRC's) to store impounded items. Access shall be controlled by the S&MA personnel and shall be limited to current MRB members and technical specialists escorted by MRB members. The MRC shall be locked when unattended, and items shall be logged in and out by S&MA.

6.2.1.5 Establish MRB meeting schedules and notify all members. Assure that voting members legibly print and sign their names to each MRB disposition.

6.2.1.6 Perform MRB functions as required by project MRB requirements.

6.2.2 Directorates. All Directorates will:

6.2.2.1 Provide the S&MA Office, upon request, a list of personnel (and their alternates) designated to serve on the MRB and delegated with the authority to represent and sign all material review dispositions which fall within their organization's responsibilities.

6.2.2.2 Prepare ECR's and DAR's as appropriate..

6.2.2.3 Perform MRB functions as required by project MRB requirements.

6.2.3 Engineering Systems Department. The Engineering Systems Department will provide support as required to assure proper issuance, control, and tracking of ECR's and DAR's resulting from nonconformance review actions.

6.2.4 Project Offices. Project offices shall document membership of project MRB's in the Project Quality Plan. Project office personnel shall obtain concurrences from the customer, when required, for use-as-is and repair dispositions.

7. NOTES

None

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8. SAFETY PRECAUTIONS AND WARNING NOTES

None

9. RECORDS

DR's will be maintained by S&MA in the QRC for the life of the project, or as specified by the applicable contractual documentation. Completed copies of Fabrication Services Contractor MRB dispositioned DR's shall be retained in the QRC for the life of the project when provided in accordance with the contract or Letter of Delegation. At the end of the retention period, records shall be dispositioned in accordance with NPG 1441.1

10. PERSONNEL TRAINING AND CERTIFICATION

None

11. FLOW DIAGRAM

None

12. CANCELLATION

MWI 8730.3A dated August 16, 1999

Original signed by
Axel Roth for

A. G. Stephenson
Director